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Final Environmental Impact Statement

Sugarloaf Hazardous Fuels Reduction Project

Feather River Ranger District, Plumas National Forest
Plumas and Sierra Counties, California



Rabbit Creek

Rabbit Creek lies between 4,200 to 5,200 feet in elevation in the north eastern portion of the Sugarloaf Project area. Photograph taken by Susan Cueva (USDA 2012).

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Sugarloaf Hazardous Fuels Reduction Project

Final Environmental Impact Statement

Plumas and Sierra Counties, California

Lead Agency: USDA Forest Service

Responsible Official: Earl W. Ford, Plumas National Forest Supervisor
159 Lawrence Street, Quincy, CA 95971

For Information Contact: Wade McMaster, Feather River District Ranger
Carol Spinos, Project Leader
875 Mitchell Avenue, Oroville, 95965
(530) 534-6500

Abstract: The USDA Forest Service, Feather River Ranger District of the Plumas National Forest (PNF) has prepared the Sugarloaf Hazardous Fuels Reduction Final Environmental Impact Statement (FEIS) to disclose the analysis of the No-action Alternative (Alternative A), the preferred Alternative D and two other land management alternatives (Alternative B and C), as a step toward achieving desired ecologically healthy forests and watersheds better able to adjust and thrive in the face of climate change and large scale disturbances such as fire, drought and insect and disease attacks, while increasing benefits citizens will receive such as improved delivery of clean water, wood and jobs to contribute to the economic stability of rural communities. Alternative A proposes no action (status quo) providing a baseline against which the action land management alternatives can be compared. Alternative B is designed to test vegetative, fuels reduction and riparian restoration *Herger-Feinstein Quincy Library Group Forest Recovery Act* (HFQLG Act) Pilot Project activities, requiring a non-significant Forest Plan amendment. Alternative B proposes 992 acres of defensible fuel profile zone (DFPZ) area treatments and 71 acres of group selection (GS) expected to produce 5.8 million board feet of commercially-valuable timber volume; 20.3 miles of NFS road improvements, decommissioning and obliteration; 223 acres of mastication; 683 acres of hand thin, pile, and burn and 3,919 acres of prescribed fire using manual ignition (i.e. drip torch) techniques. Alternative C proposes to implement 1,315 acres of fuel treatments by applying thin from below expected to produce 5.3 million board feet of commercially-valuable timber volume; 334 acres of mastication, 1,542 acres of hand thin, pile, and burn; 91 acres of hand thin, grapple pile, and burn and 3,643 acres of prescribed fire in accordance with the 2004 SNFPA FSEIS and ROD. Approximately 5 miles of road would be redesigned and/or upgraded with drainage features along PC511A and NFS roads 22N53, 21N18A and 21N42Y to mitigate short term effects to water quality. Alternative D includes 859 acres of variable density thinning and 76 acres of thin from below expected to produce 4.6 million board feet of commercially-valuable timber; 20.3 miles of NFS road improvements, decommissioning and obliteration; 278 acres of mastication; 1,401 acres of hand thin, pile, and burn; 71 acres of hand thin, grapple pile, and burn and 3,598 acres of prescribed fire in accordance with the 2004 SNFPA FSEIS and ROD.

The Sugarloaf Hazardous Fuels Reduction Final Environmental Impact Statement (FEIS) is available on the Plumas National Forest website: http://www.fs.fed.us/r5/plumas/projects_and_plans/sugarloaf_hazardous_fuels_reduction/

Summary

Ecological Restoration is at the core of the U.S. Forest Service mission to sustain the health, diversity and productivity of the Nation's forests to serve the needs of present and future generations. The call for ecological restoration is widely recognized due to the myriad of threats to our watershed including catastrophic wildfire, climate change, and increasing human population pressures with cumulative impacts.

The Feather River Ranger District of the Plumas National Forest (PNF) is proposing the Sugarloaf Hazardous Fuels Reduction Project (Sugarloaf Project) to take a step toward restoring localized water quality, fire behaviors and ecologically healthy forests better able to adjust and thrive in the face of climate change, wildfire, drought, and insect and disease attacks, while increasing benefits citizens will receive such as jobs, improved delivery of clean water and wood products to contribute to the economic stability of rural communities.

In order to meet the elements of the purpose and need of this project and respond to the need for watershed improvement, the following treatments are proposed: strategically-placed vegetative and fuels reduction treatments (mechanical variable density thinning and area thinning from below), manual (hand cutting); prescribed fire techniques including prescribed underburning in the Valley Creek Special Interest Area (SIA) and road improvements around the communities of the La Porte and American House.

The Sugarloaf Project is located south of Little Grass Valley Reservoir, from Goat Mountain in the north to community of American House in the south, surrounding the community of La Porte on National Forest System (NFS) land. The project encompasses all or portions of T. 21 N., R. 8 E., sec. 24-26; T. 21 N., R. 9 E., sec. 2, 3, 5-10, 14-22, 27-32, MDM. The treatment areas proposed on NFS lands range in elevation from 4,000 to 5,800 feet above mean sea level.

The Feather River Ranger District of the Plumas National Forest (PNF) has designed the proposed action to incrementally move existing degraded watershed and forest ecosystems vulnerable to wildfire toward desired ecologically healthy conditions, resilient with proper hydrologic function. Residents living in La Porte, American House and surrounding areas rely on the Forest Service for effective wildfire suppression and active management of public lands for clean water, biodiversity beneficial amenities and uses supporting recreation, tourism, quality of life, home heating (firewood), jobs and wood products, to name a few.

Since the early 1900s, large scale hydraulic mining on private lands, logging and road building have caused localized increases to in-stream sedimentation levels. There is a need to obliterate, decommission and repair improperly constructed and unmaintained roads increasing sediment levels in streams down-slope. Fire exclusion has decreased the incidence of historic low intensity fires, allowing for a build-up of surface and canopy fuels and reduced tree vigor. There is a need for excessive fuel accumulations (fuel loading) to be reduced to decrease risks to people, structures, and natural resources from wildfire.

There is a need for tree densities and tree species diversity to be altered to address declining tree vigor and loss of pine and oak species, which were historically abundant. There is a need to contribute to local forestry-related employment and provide forest products offerings, while retaining aesthetically pleasing landscape features, biodiversity and clean water supporting tourism related income vital for rural communities such as La Porte.

The desired condition is a fire-resilient landscape featuring uneven-aged, multi-storied, forestlands abundant with thick-bark, tall ponderosa, sugar pine, oak and dispersed large Douglas-fir and incense cedar. Healthy tree crowns (the uppermost part of the tree) are sufficiently spaced to limit the spread of rapid crown fire during periods of high temperature, low humidity, high wind, and low fuel moisture conditions, particularly on the upper slopes and along mountain ridges. The ecological vegetative and fuels conditions are resilient to climate change forecasts of increasing number of days above mean average conditions and longer fire seasons.

The desired condition within the Valley Creek Special Interest Area (SIA), spatially overlapping California spotted owl protection activity centers (CSO PACs) and surrounding home range core areas (HRCAs), is large trees with sufficient canopy cover to allow for nesting, filtered light conditions on the forest floor, a diversity of understory plants, adequate soil moisture and duff levels.

The desired condition for watershed health is a resilient, proper functioning sediment regime featuring a well-designed, low density transportation system, free flowing cold, clean waterways and healthy and diverse aquatic habitats.

The desired condition for community stability is local economies served by beneficial uses, biodiversity, available timber and biomass supplies promoting family wage jobs.

The Sugarloaf Project was scoped with the publication of the Notice of Intent in the *Federal Register* on Tuesday, June 5, 2012 (Vol. 77, No.108, pp. 33158-33159), disclosing Alternative B as the proposed action, designed to fulfill mandates per the *Herger-Feinstein Quincy Library Group Forest Recovery Act* (HFQLG Act). On June 27, 2012, during the initial 45-day scoping period, comments were received from two organizations and several residents. A public meeting was held on June 18, 2012; attended by two organizations and several landowners living adjacent to the project area in La Porte.

On September 30, 2012, the 2008 *Consolidated Appropriations Act* authorities to implement the HFQLG Act ended. For this reason, the selection of Alternative B requires a non-significant Forest Plan amendment.

On Friday, July 26, 2013, the Forest Service initiated an official 45 day comment period with the publication of the Notice of Availability (NOA) of the Draft EIS (DEIS) in the *Federal Register* (Vol. 78, No. 144, pg. 45190). A comment period notice was also published in the *Feather River Bulletin* on the July 26, 2013, available for review on the Plumas National Forest website: http://www.fs.fed.us/r5/plumas/projects_and_plans/sugarloaf_hazardous_fuels_reduction/. Comments were received from two agencies and two organizations.

The response to comments can be found in Appendix A-9 of this FEIS. A compilation of comments received is located in the project record at Feather River Ranger District in Oroville, California.

Table S-1 includes a summary of the proposed action and the three other alternatives considered in detail for the Sugarloaf Hazardous Fuels Reduction FEIS, discussed further in chapter 2.

Table S-1. Description of Alternatives considered in detail.

Alternative Description
<p>Alternative A: The No-action Alternative provides a baseline against which to compare the other action Alternatives. This Alternative does allow for on-going administrative activities within the Project Area, such as reforestation, road maintenance, roadside danger tree felling, fire suppression, and dispersed recreation. Under the No-action Alternative, current land management direction would continue to guide activities on National Forest System land (NFSL).</p>
<p>Alternative B. Alternative B is designed implement <i>Herger-Feinstein Quincy Library Group Forest Recovery Act</i> (HFQLG Act) Pilot Project activities and requires a Forest Plan amendment. This Alternative incorporates road improvements, decommissioning and obliteration similar to Alternative D, while establishing defensible fuel profile zones (DFPZs) and Group Selection (GS) treatments under standards and guidelines in the 2004 Sierra Nevada Forest Plan Amendment ROD; Table 2.</p> <p><i>Alternative B proposes:</i></p> <p>992 acres of DFPZ thinning with 763 acres of variable density thinning and 229 acres of thinning from below;</p> <p>71 acres of group selection (GS);</p> <p>223 acres of mastication;</p> <p>683 acres of hand thin, pile, and burn;</p> <p>3,919 acres of prescribed fire using manual ignition (i.e., drip torch) techniques</p> <p>20.3 miles of NFS road would be improved, decommissioned or obliterated to promote watershed health.</p> <p>Wood by-products from these treatments are expected to produce 5.8 million board feet of commercially-valuable timber volume, requiring 4.9 miles of NFS classified road reconstruction, 4.3 miles of unclassified (temporary) road construction (closed post operations) and the construction of 31 new log landing sites.</p>

Alternative Description
<p>Alternative C: Alternative C is designed to fulfill land management direction as described in the Plumas National Forest Land and Resource Management Plan (PNF LRMP) (USDA 1988) as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS and ROD (USDA 2004a, 2004b) with emphasis on reducing hazardous fuels in the wildland urban interface (WUI). It does not respond to the forest or watershed improvement elements of the purpose and need.</p> <p><i>Alternative C proposes:</i></p> <p>1,315 acres of area fuel treatments by thinning from below;</p> <p>334 acres of mastication;</p> <p>1,542 acres of hand thin, pile, and burn;</p> <p>91 acres of hand thin, grapple pile, and burn;</p> <p>3,643 acres of prescribed fire, including 331 acres within the federally-administered Valley Creek Special Interest Area (SIA).</p> <p>Wood by-products from these treatments are expected to produce 5.3 million board feet of commercially-valuable timber volume, requiring 3.5 miles of NFS classified road reconstruction, 2.8 miles of unclassified road construction (closed post operations) and the construction of 21 new landing sites. Approximately 5 miles of road would be redesigned and/or upgraded with drainage features along PC511A and NFS roads 22N53, 21N18A and 21N42Y to mitigate short term increases in sedimentation from operations.</p>
<p>Alternative D (Preferred): Alternative D is designed to fulfill land management direction as described in the Plumas National Forest Land and Resource Management Plan (PNF LRMP) (USDA 1988) as amended by the Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS and ROD (USDA 2004a, 2004b) and responds to the relevant issue for potential cumulative watershed effects. Alternative D proposes road improvements, decommissioning and obliteration, along with integrated ecological fuels and vegetation treatments; beneficial to promoting watershed health.</p> <p><i>Alternative D proposes:</i></p> <p>859 acres of variable density thinning and 76 acres of thinning from below;</p> <p>278 acres of mastication;</p> <p>1,401 acres of hand thin, pile, and burn;</p> <p>71 acres of hand thin, grapple pile, and burn;</p> <p>3,598 acres of prescribed fire, including 331 acres within the federally-administered Valley Creek Special Interest Area (SIA);</p> <p>20.3 miles of NFS road would be improved, decommissioned or obliterated.</p> <p>Wood by-products from these treatments are expected to produce 4.6 million board feet of commercially-valuable timber, requiring 3.6 miles of NFS classified road reconstruction, 2 miles of unclassified road construction (closed post operations) and the construction of 24 new landing sites.</p>

The Responsible Official for the Sugarloaf Project, Forest Supervisor of the Plumas National Forest, Earl W. Ford, will decide whether to implement the Sugarloaf Project as identified in the Proposed Action, implement the project based on Alternatives to the Proposed Action, or not implement the project at this time.

Major conclusions include:

- Alternative A
 - Flame length is predicted between 1–100 feet and predicted fire types are surface, passive and active if not treated (100 percent); 92 percent of the NFS lands analyzed are classified as Condition class 3, in which vegetation composition, structure, and fuels have a high departure from the natural fire regime and predispose the system to high risk of loss of key ecosystem components. The steep Slate Creek and Rabbit Creek drainages align with southwest prevailing wind direction, which would tend to funnel the flame front towards the town of LaPorte and homeowner communities immediately to the north;
 - Predicted 100 percent stands retain all trees greater than 24 inches DBH and minimum average 50 percent canopy cover;
 - Predicted 100 percent of California Wildlife Habitat Relationship (CWHR) vegetative types 4M, 4D and 5M retained (see Table 3.12 for definitions).
 - No effect to Federal listing or loss of viability for the following Forest Service Sensitive species: California spotted owl, Northern Goshawk, Pacific Marten, Fisher, Townsend big-eared bat, Pallid bat; Sierra Nevada (Mountain) yellow-legged frog, Pacific pond turtle and Foothill yellow-legged frog;
 - One subwatershed would continue to be over the threshold of concern (TOC) and five subwatersheds may continue to approach the TOC (recovery is uncertain as the potential for natural and human caused disturbances is likely);
 - No potential to effect effective soil cover because mechanical thin, group selections, mastication and prescribed burning would not occur;
 - No effect to Forest Service Sensitive plant species known within the project area: *Peltigera hydrothyria* (a lichen), *Botrychium crenulatum*, *Cypripedium fasciculatum*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lupinus dalesiae*, and *Phaeocollybia olivacea* (a fungus);
 - No sawlog volume or biomass would be generated;
 - No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;

- No additional emissions, as there would be no mechanical equipment use or prescribed burning.
- No improvement to watershed health, as road generated soil erosion would continue to promote sedimentation and impacts to aquatic habitats.
- Alternative B
 - Flame length is predicted between 1-4 feet and the predicted fire behavior is surface fire in treated areas (87 percent); DFPZs and Groups Selections (GSs) interior DFPZs would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte HFR projects;
 - Predicted 43 percent stands retain all trees greater than 24 inches DBH and 19 percent stands retain greater than 50 percent canopy cover;
 - Predicted 30 percent CWHR 4M and 21 percent of 5M net retained, with 51 percent 4D removed;
 - May affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for the following Forest Service Sensitive species: California spotted owl and Northern goshawk, Pacific Marten, Townsend big-eared bat, and Pallid bat;
 - May affect species, but is not likely to contribute to the need for Federal listing or result in loss of viability for the Fisher;
 - May impact individuals of Pacific pond turtle and Foothill yellow-legged frog but is not likely to cause a trend toward Federal listing or a loss of viability;
 - No effect to Sierra Nevada (Mountain) yellow-legged frog;
 - Three subwatersheds would be pushed over their thresholds of concern (TOC) and one subwatershed would continue pushing further into percent of TOC;
 - Greater potential to effect effective soil cover associated with DFPZ mechanical thin and group selections treatments;
 - No effect to Forest Service Sensitive plant (lichen) species *Peltigera hydrothyria* as no project related activities will impact known occurrences of this rare species;
 - May impact individuals but not likely to cause a trend toward federal listing or loss of viability for the following Forest Service Sensitive plant species: *Botrychium crenulatum*, *Cypripedium fasciculatum*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lupinus dalesiae*, and *Phaeocollybia olivacea* (a fungus);
 - Predicted levels of sawlog volume is are 5.8 million board feet (mmbf);

- No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
 - Of the action Alternatives, predicts the least emission because there is more mechanical thinning reducing the amount of material to be burned;
 - Beneficial to watershed health improvements, as up to 4.9 miles of road reconstruction (NFS roads PC511A, 22N53, 21N18A, and 21N42Y), 4.9 miles of temporary road reconstruction, and 10.5 miles of road decommissioning would occur to lower sedimentation and impacts to aquatic habitats.
- Alternative C
 - Flame length is predicted between 1-4 feet and the predicted fire type is surface fire in treated areas (72 percent); at the landscape level, fuel treatments would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte projects;
 - Predicted 72 percent stands retain all trees greater than 24 inches DBH and 40 percent stands retain greater than 50 percent canopy cover;
 - Predicted 58 percent CWHR 4M net retained, with 49 percent 4D removed;
 - Same determinations for wildlife terrestrial species as listed in Alternative B;
 - Same determinations for aquatic wildlife species listed in Alternative B;
 - Same determinations for Forest Service Sensitive plant species as listed in Alternative B;
 - 1 subwatershed would continue approaching its TOC, 3 subwatersheds would be pushed over their TOC, and 1 subwatershed would continue pushing further into percent of TOC;
 - Predicted levels of sawlog volume is 5.3 mmbf;
 - No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
 - No improvement to watershed health, as road generated soil erosion would continue to promote sedimentation and impacts to aquatic habitats.
 - Alternative D
 - Flame length is predicted between 1-4 feet and the predicted fire type is surface fire in treated areas (89 percent); at the landscape level, fuel treatments would provide connectivity between the existing fuel treatments of Bald Onion, South fork DFPZs Poverty Hill and LaPorte projects;

- Predicted 87 percent of stands retain all trees greater than 24 inches DBH and 42 percent stands retain greater than 50 percent canopy cover;
- Predicted 42 percent 4M and 3 percent 5M net retained, with 35 percent 4D removed;
- Same determinations for wildlife terrestrial and aquatic species as listed in Alternative B;
- Same determinations for Forest Service Sensitive plant species as listed in Alternative B;
- 3 subwatersheds would be pushed over their thresholds of concern (TOC) and 1 subwatershed pushed further into percent of TOC, similar to Alternative B;
- Predicted levels of sawlog volume is 4.6 mmbf;
- No direct or indirect effects to heritage resources, as no project related activities would occur to impact known sites;
- Beneficial to watershed health improvements, as up to 4.9 miles of road reconstruction (NFS roads PC511A, 22N53, 21N18A, and 21N42Y), 2.8 miles of temporary road reconstruction, and 10.5 miles of road decommissioning would occur to lower sedimentation and impacts to aquatic habitats.

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Contents

CHAPTER 1 — PURPOSE AND NEED FOR ACTION

1.1	Introduction.....	1-1
1.2	Document Structure	1-1
1.3	Changes between the Draft and Final Environmental Impact Statements.....	1-2
1.4	Purpose and Need for Action.....	1-4
1.4.1	Purpose 1: Reduce Hazardous Fuels	1-4
1.4.2	Purpose 2: Promote Forest Health.....	1-5
1.4.3	Purpose 3: Improve Watershed Health.....	1-6
1.4.4	Purpose 4: Contribute to Economic Stability	1-7
1.5	Proposed Action.....	1-8
1.6	Decision Framework.....	1-9
1.7	Forest Plan Direction	1-9
1.8	Public Involvement.....	1-11
1.9	Issues.....	1-13
1.10	Permits	1-14

CHAPTER 2 — ALTERNATIVES, INCLUDING THE PROPOSED ACTION

2.1	Introduction.....	2-1
2.1.1	Alternatives Considered in Detail.....	2-1
2.1.2	Alternative Development.....	2-1
2.1.3	Hazardous Fuels	2-4
2.1.4	Forest Health	2-6
2.1.5	Economic Stability.....	2-15
2.1.6	Alternative A – No-action Alternative	2-19
2.1.7	Alternative D – Preferred	2-19
2.1.8	Alternative B (Herger-Feinstein Quincy Library Group Pilot Project).....	2-24
2.1.9	Alternative C - Hazardous Fuels Reduction.....	2-28
2.2	Design Criteria and Mitigations Common to All Action Alternatives	2-32
2.2.1	Alternatives Considered but Eliminated from Detailed Study.....	2-38
2.2.2	Comparison of Alternatives	2-39

CHAPTER 3 — AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1	Introduction.....	3-1
3.2	Past, Present and Reasonably Foreseeable Actions	3-1
3.3	Fuels and Fire	3-2
3.3.1	Introduction	3-2
3.3.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-3
3.3.3	Effects Analysis Methodology	3-4
3.3.4	Geographic and Temporal Bounds.....	3-4
3.3.5	Analysis Methodology	3-4
3.3.6	Assumptions Specific to Fire and Fuels Resource Analysis	3-6
3.3.7	Affected Environment	3-7
3.3.8	Environmental Consequences	3-11
3.3.9	Summary and Comparison of Alternatives	3-21
3.3.10	Compliance with the Forest Plan and Other Direction.....	3-21
3.4	Forest Vegetation.....	3-22
3.4.1	Introduction	3-22
3.4.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-23
3.4.3	Effects Analysis Methodology	3-23
3.4.4	Analysis Methodology	3-24
3.4.5	Affected Environment	3-29
3.4.6	Environmental Consequences	3-34
3.4.7	Summary and Comparison of Alternatives	3-40
3.4.8	Compliance with the Forest Plan and Other Direction.....	3-48
3.5	Wildlife – Terrestrial	3-49
3.5.1	Introduction	3-49
3.5.2	Analysis Framework: Statute, Regulation, Forest Plan, and Other Direction	3-50
3.5.3	Effects Analysis Methodology	3-51
3.5.4	Affected Environment	3-55
3.5.5	Environmental Consequences	3-63
3.5.6	Summary and Comparison of Alternatives	3-87
3.6	Wildlife – Aquatics.....	3-90
3.6.1	Introduction	3-90
3.6.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-92
3.6.3	Effects Analysis Methodology	3-94
3.6.4	Affected Environment.....	3-97
3.6.5	Environmental Consequences	3-100
3.7	Hydrology	3-111

3.7.1	Introduction	3-111
3.7.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-112
3.7.3	Effects Analysis Methodology	3-115
3.7.4	Analysis Methodology	3-118
3.7.5	Affected Environment	3-121
3.7.6	Environmental Consequences	3-122
3.7.7	Compliance with the Forest Plan and Other Direction.....	3-141
3.8	Soils	3-141
3.8.1	Introduction	3-141
3.8.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-142
3.8.3	Methodology of Effects Analysis.....	3-143
3.8.4	Known Soils Types	3-146
3.8.5	Affected Environment	3-149
3.8.6	Environmental Effects.....	3-156
3.8.7	Comparison of Alternatives	3-166
3.8.8	Forest Plan Consistency	3-168
3.9	Botanical Resources and Noxious Weeds.....	3-168
3.9.1	Introduction	3-168
3.9.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-169
3.9.3	Effects Analysis Methodology	3-171
3.9.4	Affected Environment	3-172
3.9.5	Environmental Consequences	3-174
3.9.6	Summary and Comparison of Alternatives	3-177
3.9.7	Compliance with the Forest Plan and Other Direction.....	3-178
3.10	Economic and Social Environment.....	3-178
3.10.1	Introduction	3-178
3.10.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-178
3.10.3	Affected Environment	3-179
3.10.4	Environmental Consequences	3-183
3.10.5	Summary and Comparison of Alternatives	3-188
3.10.6	Compliance with the Forest Plan and Other Direction.....	3-188
3.11	Heritage Resources	3-189
3.11.1	Introduction	3-189
3.11.2	Analysis Framework: Statute, Regulatory Environment, Forest Plan and Other Direction.....	3-189
3.11.3	Effects Analysis Methodology	3-189
3.11.4	Affected Environment	3-191
3.11.5	Environmental Consequences	3-193
3.11.6	Summary and Comparison of Alternatives	3-194
3.11.7	Compliance with the Forest Plan and Other Direction.....	3-197

3.12	Air Quality	3-198
3.12.1	Introduction	3-198
3.12.2	Analysis Regulatory Framework: Statute, Regulation, Forest Plan, and Other Direction.....	3-198
3.12.3	Affected Environment.....	3-199
3.12.4	Methodology of Effects Analysis.....	3-201
3.12.5	Measurement Indicators for Resource Analysis.....	3-204
3.12.6	Environmental Consequences	3-204
3.12.7	Summary of Effects across all Alternatives	3-211
3.12.8	Forest Plan Consistency	3-211
3.13	Short-term Uses and Long-term Productivity.....	3-212
3.14	Unavoidable Adverse Effects	3-213
3.15	Irreversible and Irretrievable Commitments of Resources	3-214
3.16	Legal and Regulatory Compliance	3-215
3.16.1	Principle Environmental Laws	3-215
3.16.2	Executive Orders	3-216
3.16.3	Special Area Designations	3-218

CHAPTER 4 — COORDINATION, COLLABORATION AND CONSULTATION

4.1	Introduction.....	4-1
4.1.1	List of Forest Service Preparers	4-1
4.2	Distribution of the Final Environmental Impact Statement	4-3
4.2.1	Federal, State, and Local Agencies	4-3
4.2.2	Consultation with United States Fish and Wildlife Service	4-3
4.2.3	Consultation with California Department of Fish and Game	4-4
4.2.4	Consultation with Tribes	4-4

Appendix

Appendix A – Sugarloaf Hazardous Fuels Reduction Project	A-1
A-1 – Sugarloaf Unit Prescriptions and Stand Attributes by Alternative	A-3
A-2 – Sugarloaf CWHR and Volume Analysis	A-16
A-3 – Copy of Sugarloaf Summary	A-20
A-4 – Sugarloaf Roads Improvements.....	A-23
A-5 –Riparian Management Objectives Analysis.....	A-25
A-6 – Riparian Conservation Objectives Analysis	A-34

A-7 – Past, Present and Future Foreseeable Activities	A-35
A-8 – Findings Required by Other Laws and Regulations	A-42
A-9 – Response to Comments.....	A-45

Figures

Figure 2-1. Subwatersheds 5, 6, and 8 surrounding the community of LaPorte and subwatersheds 11 and 15 are most at-risk to significant cumulative watershed effects (CWE). The areas without shading include private land and National Forest System (NFS) lands where no treatments are proposed for the Sugarloaf Project.	2-3
Figure 2-2. Illustration of the larger defensible space network in the wildland urban interface (WUI) defense and extended threat zones.	2-5
Figure 2-3. Existing average species composition of all stands in the Sugarloaf Project area, as a percentage of total basal area.	2-7
Figure 2-4. Protected Activity Centers (PACs) within the Sugarloaf Project area.	2-17
Figure 2-5. Alternative D – Proposed Treatments on NFS lands.....	2-23
Figure 2-6. Alternative B - Proposed Treatments on NFS lands.	2-27
Figure 2-7. Alternative C – Proposed Treatments on NFS lands.....	2-31
Figure 3-1. Existing average species composition of all stands in the Sugarloaf Project area, as a percentage of total basal area.	3-30
Figure 3-2. Existing average trees per acre and canopy cover by diameter class.	3-30
Figure 3-3. Distribution of California Wildlife Habitat Relationship tree size and density classes within the analysis area.	3-32
Figure 3-4. Species composition under: (a) alternative B, (b) alternative C, and (c) alternative D as a percentage of total basal area.	3-43
Figure 3-5. Percentage change in CWHR size and density classes for alternative B.	3-47
Figure 3-6. Percentage change in CWHR size and density classes for alternative C.	3-47
Figure 3-7. Percentage change in CWHR size and density classes for alternative D.	3-48
Figure 3-8. Cumulative Watershed Effects analysis area map.....	3-117
Figure 3-9. Cumulative Watershed Effects analysis area map with proposed treatment units.	3-118
Figure 3-10. California air basins and counties.	3-202
Figure 3-11. California air quality districts and counties.....	3-203

Tables

Table 2-1. Alternative D: Thin from Below and Variable Density (Radial) Thinning Treatments.....	2-22
Table 2-2. Alternative C: Fuel Treatments –Thin from Below.....	2-30
Table 2-3. Design Criteria and Mitigation Measures applicable to variable density thinning and area thinning treatments.	2-32
Table 2-4. Design Criteria for Group Selections – Alternative B only.....	2-34
Table 2-5. Design Criteria for RHCAs and RCAs.....	2-35
Table 2-6. Design Criteria for Effective Soil Cover for All Treatment Types if Cover is Not Met.	2-36
Table 2-7. Design Criteria for Access and Transportation.	2-37
Table 2-8. Design Criteria for Watershed Improvements.....	2-37
Table 2-9. Design Criteria for Minerals Resources.	2-38
Table 2-10. Comparison of Alternatives Considered in Detail – Proposed Treatment Methods.....	2-40
Table 2-12. Summary of effects to watershed and aquatic wildlife resources by alternative.....	2-43
Table 2-13. Summary of effects to wildlife resources by alternative.	2-44

Table 2-14. Summary of effects to wildlife resources by alternative.	2-44
Table 2-15. Summary of effects to physical and biological resources by alternative.	2-46
Table 2-16. Summary of effects to the social environment by alternative.	2-48
Table 3-1. Parameters used for stand-level modeling under 90th percentile weather conditions.	3-5
Table 3-2. Fuels models used in direct and indirect effects analysis.	3-5
Table 3-3. Fires in analysis area 20 acres or less.	3-9
Table 3-4. Fire Regime Condition Classes within the Sugarloaf analysis area.	3-9
Table 3-5. Comparison of alternatives.	3-11
Table 3-6. Range of predicted fire behavior in Sugarloaf analysis area by fuel model type (alternative A).	3-14
Table 3-7. Predicted fire behavior in Sugarloaf Project analysis area post treatment (alternative B).	3-19
Table 3-8. Predicted Fire Behavior in Sugarloaf Project analysis area post treatment (alternative C).	3-19
Table 3-9. Predicted Fire Behavior in Sugarloaf Project analysis area post treatment (alternative D).	3-20
Table 3-10. Changes in fire behavior; Existing Condition and Action Alternatives.	3-21
Table 3-11. Diameter class and tree size by forest product.	3-25
Table 3-12. CWHR tree size and density class crosswalk with seral stage and canopy closure condition.	3-28
Table 3-13. Existing conditions of forested stands.	3-34
Table 3-14. Average stand attributes by alternative and prescription, values in parentheses are (min-max). TFB=thinning from below, VDT=variable density thinning, DL=upper diameter limit, CC=canopy cover target.	3-35
Table 3-15. Comparison of average post-treatment percent change in desired shade-intolerant species composition by alternative and treatment.	3-42
Table 3-16. Comparison of alternatives by measurement indicators.	3-45
Table 3-17. List of Region 5 Forest Service sensitive species within the wildlife analysis area.	3-49
Table 3-18. Wildlife Species and their associated Indicators and Measures.	3-54
Table 3-19. Alternative B: acres of treatment by CWHR size class and density.	3-64
Table 3-20. Alternative C: acres of treatment by CWHR size class and density.	3-64
Table 3-21. Alternative D: acres of treatment by CWHR size class and density.	3-65
Table 3-22. Summary of effects of the Proposed Action for wildlife species that could be affected by the Sugarloaf Project.	3-87
Table 3-23. Species protection category.	3-90
Table 3-24. Threatened, endangered, or sensitive aquatic species that may be present in the Plumas National forest, their preferred habitat and elevation range, and their potential to reside in the Sugarloaf Hazardous Fuels Reduction Project.	3-91
Table 3-25. RHCAs 1999 HFQLG – alternative B.	3-94
Table 3-26. RCAs 2004 Framework – alternatives C and D.	3-94
Table 3-27. Indicators and Measures for Sugarloaf project aquatic analyses.	3-96
Table 3-28. Pacific pond turtle seasonal movements and potential disturbance.	3-98
Table 3-29. Treatments in RCA/RHCAs by alternatives.	3-100
Table 3-30. Suitable habitat with known or suspected presences with treatment.	3-103
Table 3-31. Threshold of Concern and Sediment Increase Probability.	3-105
Table 3-32. Habitat alterations by species by alternative.	3-105
Table 3-33. Rabbit Creek- comparison of treatments in RHCAs/RCAs by action alternative.	3-107
Table 3-34. Alternatives – Cumulative Effects.	3-108
Table 3-35. Effects determinations by species.	3-111
Table 3-36. Cumulative watershed effects (CWE) subwatershed description.	3-116
Table 3-37. Existing miles of road and road density by subwatershed.	3-123
Table 3-38. Percent of disturbance activities contributing to the TOC.	3-124
Table 3-39. Percent TOC by subwatershed.	3-124
Table 3-40. RHCA and SMZ buffers for fuels and timber operations.	3-126
Table 3-41. Proposed reduction in road density.	3-127

Table 3-42. BMP onsite evaluation protocols.....	3-129
Table 3-43. BMPEP summary of ratings, 2007-2009. BMPs for timber activities only.	3-129
Table 3-44. Percent of disturbance activities contributing to the TOC (for alternative B).	3-131
Table 3-45. Percent TOC by subwatershed.	3-132
Table 3-46. Percent of disturbance activities contributing to the TOC (for alternative C).	3-134
Table 3-47. Percent TOC by subwatershed (for alternative C).	3-135
Table 3-48. RCA widths.	3-135
Table 3-47. Percent of disturbance activities contributing to the TOC (for alternative D).	3-137
Table 3-48. Percent TOC by subwatershed (for alternate D).	3-138
Table 3-49. Known soil types within proposed treatment units.	3-147
Table 3-50. Existing condition of soil indicators.	3-151
Table 3-51. Group Selection units in alternative B and changes to prescription across the action alternatives.	3-159
Table 3-52. Maximum acres of mechanical treatment across alternatives.	3-165
Table 3-53. Forest Service Sensitive plant and fungus species located within the project area.	3-173
Table 3-54. Plumas National Forest Special Interest plant species located within the project area.	3-173
Table 3-55. Noxious weed species located in or adjacent to the project area.	3-174
Table 3-56. Summary of acres of Sensitive plant and fungus species within the project area, within treatment units, and within Controlled Areas (CAs). Within botany CAs there would be no ground disturbance and no burn piles, but hand thinning may occur and underburns may pass into them.	3-175
Table 3-57. Summary of acres of Sensitive plant and fungus species within the project area, within treatment units, and within Controlled Areas (CAs). Within botany CAs there would be no ground disturbance and no burn piles, but hand thinning may occur and underburns may pass into them.	3-175
Table 3-58. Percentage of Plumas National Forest system lands by county.a.....	3-180
Table 3-59. Secure Rural Schools and Community Self-Determination Act full payment amounts to counties for years 2001–2011.	3-181
Table 3-60. Secure Rural Schools and Community Self-Determination Act Title I, II, and III payment amounts to counties for year 2011.	3-182
Table 3-61. Mill closures by type and year.	3-185
Table 3-62. Comparison of employment and income by alternative.	3-186
Table 3-63. Comparison of economic revenues and costs by alternative.	3-187
Table 3-64. Treatment areas with known cultural resources within or near them.	3-195
Table 3-65. PM2.5 Annual Averages for Mountain Counties Air Basin.....	3-200
Table 3-66. Ozone maximum 8-hour average** for Mountain Counties Air Basin.....	3-200
Table 3-67. Harvest emissions for alternative B.	3-205
Table 3-68. Total prescribed burning emissions for all action alternatives.	3-206
Table 3-69. Predicted daily emissions for prescribed burning.	3-206
Table 3-70. Total emissions for alternative B.	3-207
Table 3-71. Emissions from mechanical treatments in alternative C.	3-208
Table 3-72. Total prescribed burning emissions from alternative C.	3-208
Table 3-73. Total emissions for alternative C.	3-209
Table 3-74. Emissions from mechanical treatments in alternative D.	3-209
Table 3-75. Total prescribed burning emissions from alternative D.	3-210
Table 3-76. Total emissions for alternative D.	3-211
Table 3-77. Predicted emissions of wildfire compared to action alternatives.	3-21